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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/814,050

03/31/2004

Ian A. Young

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7590

04/06/2006

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EXAMINER

SAYADIAN, HRAYR A

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/814,050

Applicant(s)

YOUNG ET AL.

Examiner

Hrayr A. Sayadian

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**ELECTION REQUIREMENT**

1. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from the ones described below.
2. This application and pending claims 1-30 are directed to the following patentably distinct species:

A. The VECSEL described with respect to FIG. 2A., wherein the mutually exclusive characteristic comprises the absorber being immediately next to the lower mirror.

B. The VECSEL described with respect to FIG. 3, wherein the mutually exclusive characteristic comprises the absorber being immediately next to the pump laser but away from the output coupler.

C. The VECSEL described with respect to FIG. 4, wherein the mutually exclusive characteristic comprises the absorber being immediately next to the pump laser, and wherein the pump energy is through the lower mirror.

D. The VECSEL described with respect to FIG. 5, wherein the mutually exclusive characteristic comprises the absorber being between the gain medium and the output coupler, and wherein the laser is electrically pumped.

E. The VECSEL described with respect to FIG. 6, wherein the mutually exclusive characteristic comprises the absorber being immediately next to the lower mirror and being between the gain medium and the lower mirror, and wherein the laser is electrically pumped.

F. The VCSEL described with respect to FIG. 7, wherein the mutually exclusive characteristic comprises the absorber being immediately next to the gain medium and being between the gain medium and the output coupler microlens, the VCSEL including an index-matching layer.

G. The VCSEL described with respect to FIG. 8, wherein the mutually exclusive characteristic comprises the absorber being immediately next to the gain medium and being between the gain medium and the output coupler microlens, the VCSEL not including an index matching layer.

H. The Solid State Laser described with respect to FIG. 12, wherein the mutually exclusive characteristic comprises having a quantum dot semiconductor saturable absorber (SESAM) not integrated into the laser medium.

I. The Solid State Laser described with respect to FIG. 13, wherein the mutually exclusive characteristic comprises having a quantum dot semiconductor saturable absorber (SESAM) integrated into the solid state laser medium.

Additionally, Species A-G each includes two sub-Species:

1. An embodiment wherein the absorber is formed from quantum dots (see, for example, [0051]-[0054]).
2. An embodiment wherein the absorber is formed from quantum wells (see, for example, [0055]-[0057]).

3. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from the ones described above (A1, A2, B1, B2, ... , G1, G2, H, and I), even though this requirement is traversed. Applicant is advised that a reply to this requirement must include:

1. an identification of the species that is elected consonant with this requirement, and
2. a listing of all claims readable thereon, including any claims subsequently added.

An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

If claims are added after the election, applicant must indicate which are readable upon the elected species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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**CLOSURE**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hrayr A. Sayadian whose telephone number is (571) 272-7779. The examiner can normally be reached Monday through Friday, 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun O. Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HAS



*Acemando P. [Signature]*  
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